3-28-2012

Childhood victimization: The psychosocial functioning of traditional and cyer victims

Corrie Lynn Jackson

CHILDHOOD VICTIMIZATION: THE PSYCHOSOCIAL FUNCTIONING OF TRADITIONAL AND CYBER VICTIMS

by

Corrie Lynn Jackson

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

Major: Psychology

The University of Memphis

August, 2012

ABSTRACT

Jackson, Corrie Lynn. PhD. The University of Memphis. August/2012. Childhood Victimization: The Psychosocial Functioning of Traditional and Cyber Victims. Major Professor: Robert Cohen, Ph.D.

Children are increasingly using computer technologies and many are experiencing online aggressive acts from their peers. News media reports have documented instances of cyber victimization, and social scientists have started to examine its characteristics and consequences. The present research evaluated a comprehensive conceptual model of cyber victimization as it relates to age, gender, traditional, face-to-face victimization, and classroom psychosocial functioning using structural equation modeling. 192 third through sixth grade students completed self-report and peer-report measures based on their experiences with cyber victimization, traditional victimization, and classroom psychosocial functioning at multiple levels of social complexity (including the individual, relationship, and group levels). The results indicated a fairly large prevalence of cyber victimization at these younger ages. In addition, the participants reported experiencing cyber victimization at comparable rates across grades, and between males and females. While some students may experience victimization in both contexts, there was not a significant relation between experiencing traditional victimization and cyber victimization in the current study. Consistent with previous literature, traditional victimization was significantly related to higher rates of loneliness, and lower rates of optimism about peer relations, number of mutual friendships, and social acceptability. Similarly, cyber victimization was positively related to children's loneliness, and negatively related to children's optimism about their peer relations and social acceptability. However, cyber victimization was not significantly related to number of

mutual friendships. Results of the current study have important implications for our understanding of cyber victimization, directions for future research, as well as possible avenues for interventions.

TABLE OF CONTENTS

Childhood Victimization: The Psychosocial Functioning of Traditional and Cyber Victims

With the increase in the use of technology, the available settings for children's social interactions have dramatically multiplied. Twenty years ago, children interacted with one another in "real time" and in the "real world," such as on the playground, during after-school events, and via the telephone. Children now conduct many of their social interactions in the "cyber world" by talking through social networking sites, in chat rooms, and via text messages. These cyber interactions have been shown to have positive social benefits for children. For example, the internet offers a unique way of connecting to friends and family, (Lenhart, Madden, & Hitlin, 2005; Russell, Flom, Gardner, Cutronia, & Hessling, 2003), reducing loneliness and anxiety (Ando & Sakamoto, 2008), and increasing the closeness of existing friendships (Valkenburg & Peter, 2007).

Although many online interactions can be considered positive or neutral, the cyber world may also be an avenue for negative exchanges, such as teasing, taunting, and tormenting. Similar to the consequences of traditional, face-to-face peer victimization, cyber victimization may be extraordinarily damaging to a child's adjustment. For example, previous research has shown that victimization in the online world is related to many offline problems, such as school conduct problems, weapon-carrying at school (Ybarra & Diener-West, 2007), sexual solicitation (Wolak, Mitchell, & Finkelhor, 2007; Ybarra, Espelege, & Mitchell, 2007), depressive symptoms (Erdur Baker & Tanrikulu, 2010; Fredstrom, Adams, & Gilman, 2011; Mishna, Cook, Gadall, Daciuk, & Solomon, 2010; Wang, Nansel, & Iannotti, 2011; Ybarra & Mitchell, 2004), social anxiety (Dempsey, Sulkowski, Nichols, & Storch, 2009), suicidal ideation, and suicidal behaviors

(Hinduja & Patchin, 2009). However, no studies to date have examined children's classroom psychosocial functioning as it relates to both traditional victimization and cyber victimization.

The findings from previous studies on traditional victimization by classroom peers have allowed for an awareness of the prevalence and consequences of traditional victimization. This in turn has led to the development of appropriate intervention techniques. The present research evaluated a comprehensive conceptual model of cyber victimization as it relates to age, gender, traditional, face-to-face victimization, and classroom psychosocial. It had three main foci, including, 1) examining possible age and gender differences in the frequency of experiencing cyber victimization, 2) evaluating the possible relation between traditional victimization and cyber victimization, and 3) examining a range of variables related to children's classroom psychosocial functioning (including individual, relationship, and group outcome measures, a social classification scheme advocated by Hinde [1987] and Rubin and colleagues [Rubin, Bukowski, & Parker 2006]) in relation to traditional victimization and cyber victimization. Regarding the third foci, the present research addressed the following questions related to experiencing traditional victimization and cyber victimization: a) How do victims evaluate themselves (individual level; loneliness and optimism about peer relations), b) How successful are victims in their own peer relations (relationship level; number of mutual friends), and c) How do classroom peers evaluate children who experience victimization (group level; social acceptability)? By way of introduction, we review relevant literature on victimization, including 1) the definition of victimization, 2) the prevalence of victimization, 3) age and victimization, 4) gender and victimization, 5) the

relation between traditional victimization and cyber victimization, and 6) the relation between victimization and classroom psychosocial functioning.

Defining Victimization

In the current study, traditional victimization is defined as "the receipt of any act of aggression from similar-age peers" (Card & Hodges, 2008) in the "real world" setting. It is considered highly stable, with many of the same children experiencing traditional victimization from their peers over several years (Egan & Perry, 1998; Hodges, Malone, & Perry, 1995; Olweus, 1978). Harm may be inflicted through multiple forms of aggression, including overt aggression (e.g., hitting, kicking) or relational aggression (e.g., gossiping, spreading rumors), and it may serve many functions for the aggressor, such as proactive reasons (e.g., instrumental) and reactive reasons (e.g., retaliation).

Cyber victimization can be defined as the receipt of any act of aggression through computers, cell phones, and other electronic devices (Schoffstall & Cohen, in press). The harm a cyber victim experiences may be inflicted through various methods, such as flaming (a brief, heated exchange), harassment, denigration, impersonation, outing, trickery, exclusion/ostracism, stalking, and happy slapping (violence photographed via camera phone; Kowalski, Limber, & Agatston, 2008). The harm may be carried out through various technological means, such as chat rooms, social networking sites, instant messaging, discussion boards, blogs, web sites, internet gaming, text messaging, and inflammatory pictures (Kowalski et al., 2008).

Prevalence of Victimization

Previous research has shown that many children and adolescents experience traditional victimization by their peers (Kochenderfer & Ladd, 1996; Reijntjes,

Kamphuis, Prinzie, & Telch, 2010). For example, studies have shown that it is very common for most children to occasionally be the target of traditional victimization (Hanish & Guerra, 2000; Storch & Ledley, 2005). Prevalence rates for traditional victimization are reported to be as high as 30-60% (e.g., Glover, Gough, Johnson, & Cartwright, 2000; Rigby, 2000; Smith & Shu, 2000). When using more rigorous criteria (such as experiencing victimization on at least a weekly basis), prevalence estimates are reported as between 6% to 15% (Rigby, 2000; Smith & Shu, 2000; Whitney & Smith, 1993). In sum, many children experience victimization at least once, and frequent victimization is relatively common.

Like traditional victimization, previous research has shown a fairly high incidence of cyber victimization. Estimates for children and adolescents who experience cyber victimization range from approximately 6% (Finkelhor, Mitchell, & Wolak, 2000) to 42% (Keith & Martin, 2005), with most studies finding prevalence estimates near 16-30% (Hinduja & Patchin, 2009). Similar to the research on traditional victimization, the variability in frequency may be related to different methodologies, criteria, and definitions of cyber victimization, with more rigorous criteria related to the lower prevalence rates. It seems clear that the prevalence of cyber victimization is similar to traditional victimization and that it is a relatively common occurrence in the lives of children and adolescents.

Age and Victimization

Previous research examining possible age differences in both traditional victimization and cyber victimization has found that cyber victimization is seen at comparable rates across grades and ages. For example, in one study examining

traditional victimization, children were equally as like to experience traditional victimization across the third through sixth grades (Perry, Kusel, & Perry, 1988). In another study examining cyber victimization, adolescents between the ages of 12-19 years were equally likely to experience cyber victimization via cell phones and the internet (Didden et al., 2009). Results of another study on cyber victimization indicated that children between the ages of 10-14 were equally as likely to report cyber victimization, regardless of their age (Erdur Baker & Tanrikulu, 2010).

Previous research on cyber victimization has focused mostly on adolescents. However, we know that younger children are also vulnerable to cyber victimization. For example, previous research has shown that approximately 91% of children in grades 1-5 use computers and 50% of children in grades 1-5 use the internet (DeBell & Chapman, 2006). Seventeen percent of preteens between the ages of 6 and 11 had mean, threatening, or embarrassing things said about them online (Fight Crime: Invest in Kids Pennsylvania, 2006). Four percent of the preteens in the same study reported being threatened online with physical harm. This research indicates that younger children should also be included in the examination of cyber victimization.

Gender and Victimization

Previous research examining possible gender differences in traditional victimization has shown mixed results. For example, some studies have shown that males are more likely to be targets of traditional aggression than females (Maccoby & Jacklin, 1974; Storch, Brassard, & Masia-Warner, 2003). Other research has found that males and females are equally like to experience traditional victimization (Kochenderfer & Ladd, 1996; Kowalski et al., 2005; Paquette & Underwood, 1999; Perry et al., 1988).

Similar mixed results are reported from studies examining the relation between gender and cyber victimization. Some researchers have contended that females are more likely to experience cyber victimization. As support for this claim, Kowalksi and colleagues (2007) found that for adolescents in grades 6-8, females were more likely to report being cyber victimized online than males. Similarly, Wang and colleagues found that females in grades 6-10 were more likely to report cyber victimization than males (Wang, Iannotti, Luk, & Nansel, 2010). However, other researchers have argued that males are more likely to experience cyber victimization. Katzer, Fetchenhauer, and Belschak (2009) examined German adolescents in grades 5-11 and reported that males were more likely than females to report being victimized online. Finally, other researchers have found that males and females are equally likely to experience cyber victimization (Coyne, Chesney, Logan, & Madden, 2009; Didden et al., 2009; Erdur Baker & Tanrikulu, 2010; Hinduja & Patchin, 2008). In sum, similar to the results seen for traditional victimization, the association between gender and victimization is unclear.

The Relation between Traditional and Cyber Victimization

There are relatively few studies examining how traditional victimization and cyber victimization may be related. As noted, in both contexts, victimization may be defined as the receipt of any act of aggression. Moreover, previous studies have shown that traditional victims are sometimes cyber victims and cyber victims are sometimes traditional victims (Katzer et al., 2009; Pornari & Wood, 2010; Wang et al., 2010). However, some possible differences between the two domains are that cyber victimization is not face-to-face and the victims may not personally know the perpetrators of the aggression (Ybarra & Mitchell, 2004). Using factor analysis techniques, survey

questions about the frequency of cyber victimization formed a distinct latent construct from questions about traditional victimization in a large sample of middle school students (Dempsey, Sulkowski, Nichols, & Storch, 2009). Another study found that even after controlling for the impact of traditional victimization, cyber victimization was a significant predictor of many negative outcomes, including depressive symptoms (Fredstrom et al., 2011). This suggests that cyber victimization and traditional victimization may be separate and distinct constructs. In sum, there is an association between traditional victimization and cyber victimization, but additional research is needed to improve our understanding of this relation.

The Relation between Victimization and Psychosocial Functioning

Peer relations are an incredibly important part of children's lives, especially as they enter and complete grade school. From as early as preschool, children face many social challenges, such as making a new friend, maintaining an existing friendship, being accepted into peer groups, and avoiding victimization by their peers (Ladd, 2005). Children's experiences with their peers can be best understood from the framework of multiple levels of social complexity, including the individual, relationship, and group levels (Hinde, 1987; Rubin et al., 2006). Although adjacent levels of the hierarchical scheme certainly have an impact on each other, each level has unique processes associated with it that cannot be easily understood as simply a reduction of "higher" levels, nor as an extension of processes from "lower" levels. Each level of social complexity offers unique social challenges and is extremely important for a complete understanding of children's peer relations.

Individual level of social complexity. For the individual level of social complexity, children bring their own repertoire of social skills, understanding, and expectations to social interactions. One common measure of an individual's social skills, understanding, and expectations for social interactions is the child's perception of loneliness. According to Asher and Paquette (2003), loneliness is typically defined as "involving the cognitive awareness of a deficiency in one's social and personal relationships, and the ensuing affective reactions of sadness, emptiness, or longing" (p. 75). It is an internal emotional state that is strongly correlated with external social influences, but it is not to be mistaken for any particular external condition. For example, a child could have many friends and still feel lonely, or a child could have few friends and not feel lonely. However, previous research has indicated that children without friends report experiencing more loneliness than children with friends (Parker & Asher, 1993; Renshaw & Brown, 1993). Although loneliness is not in and of itself pathological, research has shown that loneliness is related to various indices of maladjustment, including dropping out of school, alcoholism, medical problems (Asher & Paquette, 2003), poor academic performance (Larson, 1999), juvenile delinquency (Brennan, 1982), low self-esteem (Brage, Meredith, & Woodward, 1993; Hymel, Rubin, Rowden, & LeMare, 1990; Larson, 1999), social anxiety (Anderson & Harvey, 1988; Moore & Schultz, 1983); and depression (Asher & Paquette, 2003; Boivin, Hymel, & Bukowski, 1995; Koenig & Abrams, 1999).

There is a long history of research documenting that traditional victimization is related to a variety of negative psychosocial outcomes, with one of the hallmarks of these outcomes being loneliness (Boivin et al., 1995; Hawker & Boulton, 2000; Ladd &

Kochenderfer-Ladd, 2002; Storch et al., 2003). Longitudinal research has also shown that traditional victimization can be a precursor to children's loneliness (Kochenderfer & Ladd, 1996). To date, no studies have been conducted examining the relation between cyber victimization and loneliness.

Another important construct to consider when examining children's peer relations at the individual level of social complexity is the child's optimism for creating and maintaining relationships with their peers. Optimism for peer relations can be defined as the child's "expectations demonstrated to be important for successful peer relations, peer group entry, making and keeping friends, being chosen for activities by peers, as well as including general expectations concerning peer interactions" (Deptula, Cohen, Phillipsen, & Ey, 2006, p. 133). Previous research has shown that optimism for peer relations is negatively related to traditional victimization (Deptula et al., 2006; Salmivalli & Isaacs, 2005). Children who experience traditional victimization report less optimism about being able to initiate and maintain relationships with their peers, as compared to children who do not experience traditional victimization. To date, no studies have been conducted examining the relation between cyber victimization and children's optimism for peer relations.

Relationship level of social complexity. Children's relationships are dyadic in nature, and are influenced by the meaning, expectations, and emotions derived from past, present, and expected future social interactions. The quintessential example of a child's relationship is a mutual, dyadic friendship. Previous research has shown that children's friendships serve many important developmental functions, such as providing a context for learning social skills, developing self-knowledge and self-esteem, providing resources

for emotional support, and offering an environment for practicing other types of relationships (Hartup, 1993). In addition, friendships are often considered fundamental to understanding victimization. Previous research has shown that traditional victimization by peers is related to having a limited number of mutual friends (Hodges, Boivin, Vitaro, & Bukowksi, 1999; Wang, Iannotti, & Nansel, 2009). In other words, traditional victims are more likely to have fewer mutual friends than non-victims. However, research has shown that having even one best friend related to decreased victimization by peers (Boulton, Trueman, Chau, Whitehand, & Amatya, 1999; Hodges et al., 1999). Known as the "friendship protection hypothesis," friendships are thought of as a "protective factor" and are considered important for warding off aggressive attacks by peers. In addition, social support from close friends appears to buffer the effects of traditional victimization on psychosocial adjustment (Prinstein, Boergers, & Vernberg, 2001).

To date, only one study has been conducted that examined the relation between cyber victimization and friendships. Wang and colleagues (2009) found that although adolescents (grades 6-10) with more friends were less likely to experience traditional victimization, the number of mutual friendships was not significantly associated with experiencing cyber victimization.

Group level of social complexity. Children's dyadic relationships are embedded within groups, or networks of relationships, such as cliques, teams, or classrooms. Groups possess properties that are not present in the dyadic relationships, including cohesiveness, hierarchies, and social norms that are essential in the creation and maintenance of groups. For example, a child may have multiple friendships at the relationship level, but because the child is violating a group norm, the child may not be

well-liked at the group level. Social acceptability describes the extent to which a child is liked or disliked by members of the peer group (Asher & Hymel, 1981). Previous research has shown that social acceptability is negatively related to traditional victimization (Perry et al., 1988). To date, no studies have been conducted that examined the relation between cyber victimization and children's social acceptability.

The Present Research

With the increased availability and use of technology, a new form of victimization has emerged. This new form of victimization is known as cyber victimization. Previous studies have mostly examined cyber victimization only for older children and adolescents. The present research examined a comprehensive conceptual model of cyber victimization as it relates to age, gender, traditional, face-to-face victimization, and classroom psychosocial functioning at multiple levels of social complexity

Based on results seen in previous research, it was hypothesized that third through sixth graders will experience cyber victimization at comparable rates across grades. Based on mixed results seen in previous research, the possible relation between gender and cyber victimization was considered exploratory in the current study. It was hypothesized that cyber victimization and traditional victimization would not be significantly related due to previous research indicating the distinct nature of traditional victimization and cyber victimization. While there may be some overlap, traditional victims are not necessarily cyber victims and cyber victims are not necessarily traditional victims. However, despite the hypothesis that traditional victimization and cyber victimization are not directly related, it was hypothesized that traditional victims and cyber victims will both experience similar outcomes. Based on previous research

examining psychosocial functioning related to traditional victimization, it was hypothesized that cyber victimization would be positively related to children's loneliness and negatively related to optimism about peer relations and social acceptability. Although traditional victimization has been consistently shown to be negatively related to a child's number of mutual friendships, previous research has shown that cyber victimization is not significantly related to a child's number of mutual friendships (Wang, et al., 2009). Therefore, it was hypothesized in the current study that cyber victimization would not be significantly related to number of mutual friendships.

Method

Participants

Participants were students from a university-affiliated, urban public elementary school. Data were collected as part of a larger study on children's peer relations. A total of 198 children in grades 3 through 6 participated. Of the original 198 participants, six participants were missing more than one data point and were not included in the analyses. All six participants were missing data for more than one complete measure. The final sample of 192 children remained the same based on the study variables (males = 93; females = 99; 3rd grade = 55; 4th grade = 48; 5th grade = 43; 6th grade = 46). The students primarily came from middle-class socioeconomic backgrounds, as evidenced by less than 20% of the families qualifying for any school lunch subsidy, and represented multiple ethnic backgrounds (African American = 27.5%; Caucasian = 62.7%; Other ethnicities = 9.8%). Approval to conduct this study was obtained from the University of Memphis Institutional Review Board (IRB). All data collection procedures were compliant with IRB provisions and standards.

Measures

This study included evaluations of children's demographics, victimization (cyber and traditional), and psychosocial functioning (loneliness, optimism about peer relations, number of mutual friendships, and social acceptability).

Demographics. Information about children's grade and gender were collected from the official school records. Gender was dummy coded, with males coded as zero and females coded as 1.

Cyber victimization. Children completed a self-report measure asking how often someone was "mean to them using" email, chat rooms, social networking sites, cell phone text messages, and cell phone picture text messages (adapted from Schoffstall & Cohen, in press, to include cell phone text messages and cell phone picture text messages). Children indicated their responses using a 4-point scale of never, rarely, sometimes, or often, for each of the five electronic media. Scores for cyber victimization were separately summed across items, with higher scores indicating higher cyber victimization. Internal consistency for the items in the current study, based on Cronbach's alpha, was .79.

Traditional victimization. Peer evaluations of classmates' traditional victimization were assessed using behavior nomination procedures of the Revised Class Play Method (Masten, Morison, & Pellegrini, 1985). Children were provided classroom rosters and instructed to circle the names of their classmates (unlimited number) who could best fit behavior descriptions. Of interest were four items corresponding to the victimization domain (Perry, et al., 1988). The items were "Somebody who gets pushed and hit by other kids," "A person who gets called names by other kids," "A person kids

make fun of," and "Someone who gets picked on by other kids." Total nominations for victimization items were summed for each child and then standardized by classroom to control for class size. Internal consistency for the items in the current study, based on Cronbach's alpha, was .94.

Loneliness. Loneliness was assessed using the Asher, Hymel, and Renshaw (1984) loneliness questionnaire. It consists of 16 items designed to assess loneliness, perceptions of social adequacy and peer status, and preferred activities. An example item is "I'm lonely at school." Children responded to items on a 5-point scale, according to "how true" the item is for the child. For the full measure, see Appendix A. The loneliness measure was scored according to the procedure set forth by Asher et al. (1984) producing a single score, with higher scores indicating greater loneliness. Internal consistency for the questionnaire, based on Cronbach's alpha, has been reported as 0.90 (Asher et al., 1984). Internal consistency for the items in the current study, based on Cronbach's alpha, was .93.

Optimism about peer relations. The Peer Life Orientation Test (PLOT; Deptula et al., 2006) was used to assess children's optimism in regards to their peer relations. It includes ten items answered on a 4-point scale ranging from *true for me* to *not true for me*. An example item is "It's easy for me to become friends with other kids." Higher scores indicated higher peer optimism. For the full measure, see Appendix B. Internal consistency for the items in the current study, based on Cronbach's alpha, was .86.

Mutual friendships. Children were provided classroom rosters and instructed to circle the names of their friends (unlimited number). Mutual friendships were defined as reciprocal friendship nominations. This definition of friendship is the most common and

rigorous operationalization (Bukowski & Hoza, 1989). The number of mutual friendships was summed for each child and standardized by classroom (to control for class size).

Social acceptability. Sociometric ratings were used to determine classroom social acceptability. Children were provided a classroom roster and were instructed to rate how much they liked each classmate on a scale from 1 ("like very little") to 6 ("like very much)." Mean ratings were computed for each child and standardized by classroom (to control for class size).

Procedure

Data were collected in the classrooms in two group assessments during the fall semester. The order of the presentation of sessions was counterbalanced across classrooms. Graduate students in psychology conducted these sessions and were not known by any of the children. At least three researchers were present during each session. Confidentiality was explained and assured to all of the children at the beginning of each session, and an emphasis was placed on respecting the privacy and confidentiality of the children in the class. Participants were monitored to assure compliance with the protocol and any student who experienced difficulty was given individual assistance.

Results

The accuracy of the data file was explored by inspecting ranges (minimum and maximum values), means, and standard deviations of each variable for plausibility. Decisions concerning the treatment of nonnormal distributions were made by examining skew and kurtosis for continuous measures. Although no violations in normality were revealed, the cyber victimization measure approached the normality violation cut-off

score of a kurtosis distribution equal to or greater than 10 (kurtosis = 8.46), and therefore a square root transformation was used (kurtosis after the square root transformation = 3.85). See Table 1 for descriptive statistics.

Table 1
Means, Standard Deviations, Skewness, and Kurtosis among Study Variables (N = 192)

	Trad. Vic.	Cyber Vic.	Loneliness	Peer Optimism	Mutual Friendships	Social Acceptability
Mean	0.00	1.29	1.96	3.16	5.30	3.57
SD	1.00	.55	.79	.66	3.08	.81
Skew	2.47	2.09	1.38	-.92	.94	-.31
Kurtosis	6.94	3.85	1.93	.67	1.30	.17

Note. The kurtosis presented for cyber victimization is after the square-root transformation was performed.

Before conducting the square-root transformation, the mean score for cyber victimization corresponded to a self-reported response of "Rarely" experiencing cyber victimization (M = 0.97, SD = 2.09). See Table 2 for the frequency of cyber victimization based on the specific electronic media type. The means and standard deviations for each of the psychosocial outcome variables were near expected values. For example, this sample would not be considered very lonely, as evidenced by a mean score of 1.96 on a 6-point scale. The participants reported high optimism about their peer relations, as demonstrated by a mean score of 3.16 on a 4-point scale. The participants had an average of 5.30 mutual friendships. In addition, the participants were relatively well-liked by their peers, as evidenced by a mean social acceptability score of 3.57 on a 6-point scale.

Table 2
Frequency of cyber victimization by electronic media type (N = 192)

	Never		Rarely		Sometimes		Often	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Email	166	86.5	16	8.3	8	4.2	2	1.0
Chat Rooms	160	83.3	21	10.9	8	4.2	3	1.6
S.N.S	168	87.5	15	7.8	7	3.6	2	1.0
Text Messages	171	89.1	12	6.2	5	2.6	4	2.1
Picture Messages	173	90.1	9	4.7	6	3.1	4	2.1
Total Cyber Victim.	136	70.8	47	24.4	8	4.2	0	0.0

Preliminary Analyses

As evidenced by all of the correlations below .90, multicollinearity and singularity were not a significant concern. See Table 3 for zero-order correlations among all study variables. In line with the first study hypothesis, cyber victimization was not significantly correlated to traditional victimization. The significant correlations between traditional victimization and the outcome variables were consistent with findings in previous research. Traditional victimization was positively correlated to loneliness and negatively correlated to optimism about peer relations, number of mutual friendships, and social acceptability. Similarly, the significant correlations between cyber victimization and the outcome variables were consistent with data in previous research. Cyber victimization was positively correlated to loneliness, and negatively correlated to optimism about peer relations, and social acceptability. Cyber victimization was not significantly correlated to the number of mutual friendships. Each of the four outcome variables were significantly correlated to one another in expected directions.

Table 3
Correlations among Study Variables (N = 192)

	1.	2.	3.	4.	5.	6.
1. Traditional Victimization	--					
2. Cyber Victimization	.02	--				
3. Loneliness	.42*	.15*	--			
4. Peer Optimism	-.42***	-.14*	-.80***	--		
5. Mutual Friendships	-.33***	-.13	-.35***	.30***	--	
6. Social Acceptability	-.58***	-.15*	-.36***	.34***	.58***	--

Note. *$p < .05$. **$p < .01$. ***$p < .001$.

Structural Equation Model

The purpose of the present study was to examine a comprehensive conceptual model of cyber victimization as it relates to age, gender, traditional, face-to-face victimization, and classroom psychosocial functioning at multiple levels of social complexity using structural equation modeling. SEM is more advantageous than other more restricted statistical procedures because it allows for the evaluation of a set of relations between multiple independent variables and multiple dependent variables as a complete model (Hoyle, 1995). See Figure 1 for the proposed model outlining the study hypotheses.

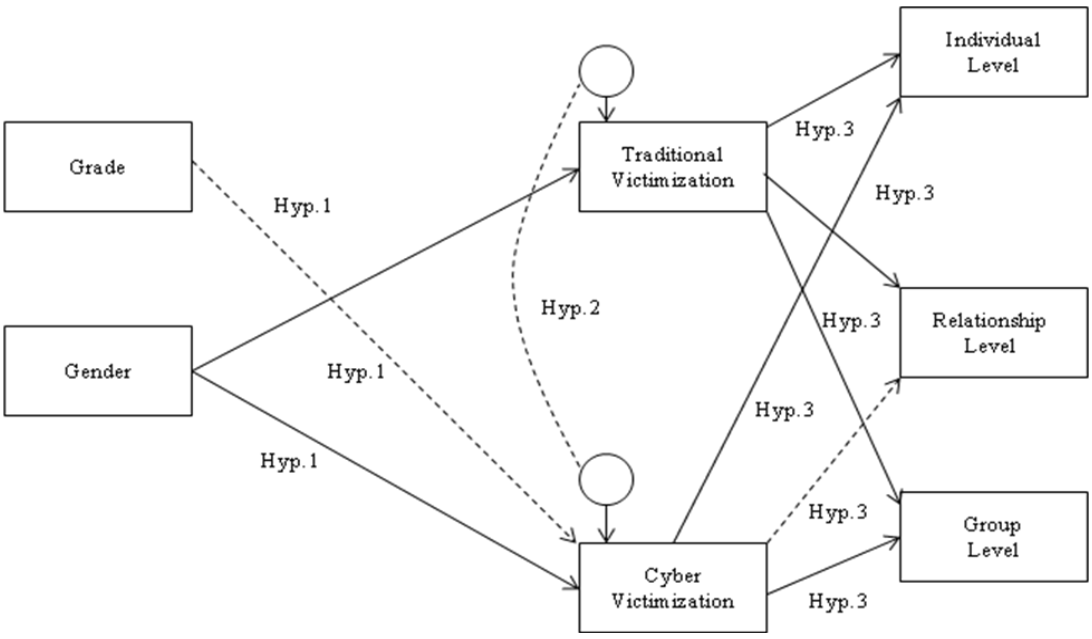

Figure 1. Proposed model outlining the three study hypotheses.

A structural model was proposed based on findings from previous research, correlations between variables in the current study, as well as the study hypotheses. Grade and gender were included in the model as exogenous variables. To examine the first hypothesis, cyber victimization was regressed on grade and gender and traditional victimization was regressed on gender. The second hypothesis posited that the variances associated with cyber victimization and traditional victimization do not overlap. To investigate this hypothesis, the error terms of cyber victimization and traditional victimization were allowed to correlate. To test the third hypothesis, each of the psychosocial outcome variables (loneliness, optimism about peer relations, number of mutual friendships, and social acceptability) were regressed on cyber victimization and traditional victimization. Based on the correlations between the variables in the current study, number of mutual friendships was regressed on grade and gender. Social acceptability was regressed on grade. Due to the known significant relation between the

outcome variables seen in previous research, the error terms were allowed to correlate. See Figure 2 for the proposed structural model.

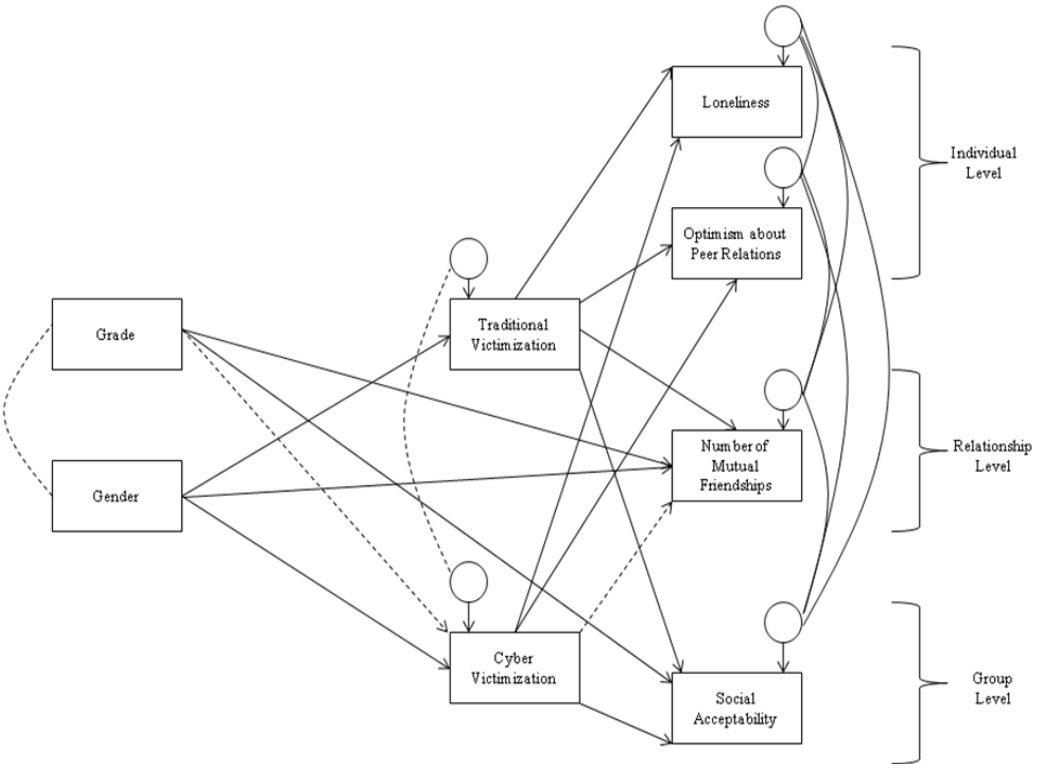

Figure 2. Proposed structural model.

All analyses were conducted using Amos 16.0. Fit statistics used to assess good fit for the proposed structural model included non-significant Chi-square value, the Hu and Bentler (1999) Root Mean Square Error of Approximation (RMSEA) recommended value of less than .05, a Standardized Root Mean Square Residual (SRMR) less than the recommended value of .08, and a Tucker Louis Index (TLI) greater than the recommended value of .95. The Chi-square value for the model was not statistically significant, the RMSEA and SRMR values were less than their recommended values, and the TLI was greater than the recommended value (χ^2 (6, N = 192) = 6.12, p = 0.410; RMSEA = 0.010; SRMR = 0.029; TLI = 0.99). Therefore, we accept the null

hypothesis, there is not a difference between the observed and estimated data, and there is a good model fit. See Figure 3 for the final structural model with path coefficients.

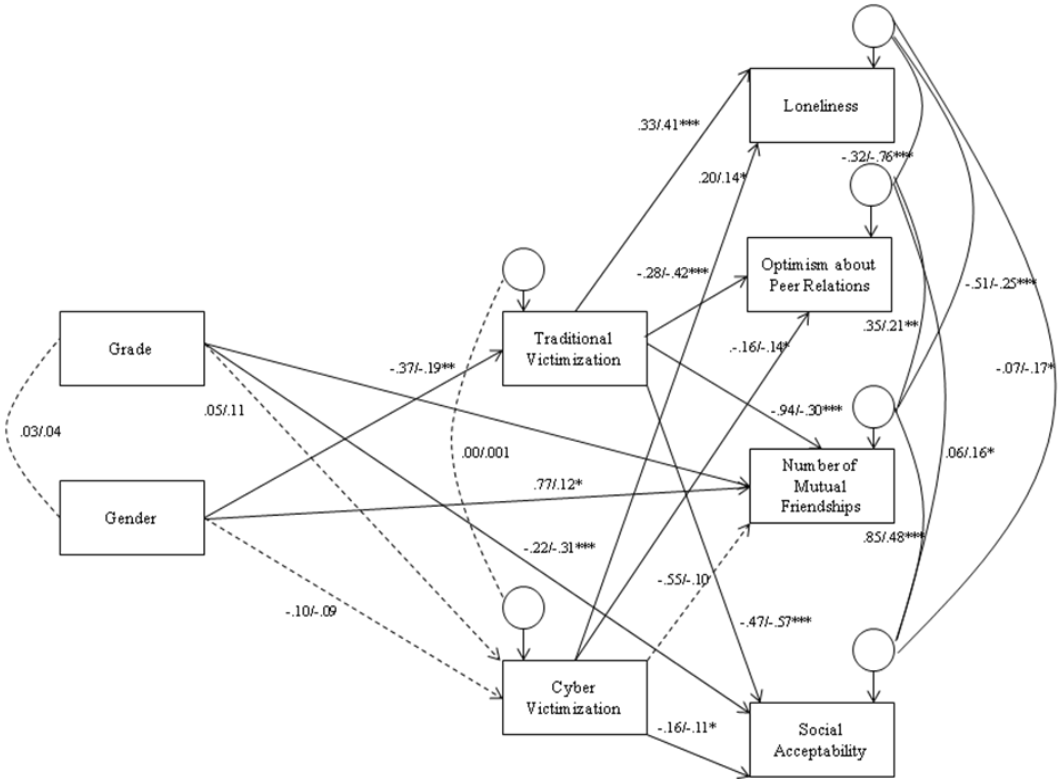

Figure 3. Structural equation model with path coefficients: Unstandardized/Standardized. * $p < .05$. ** $p < .01$. ***$p < .001$.

The first hypothesis stated that grade would not significantly relate to cyber victimization. The results supported this hypothesis and indicated that children experienced cyber victimization at comparable rates across all grades ($\beta = .11$, $p > .05$). The relation between gender and victimization was considered exploratory in the current study. The results indicated that gender was significantly related to traditional victimization ($\beta = -.19$, $p < .01$), but not cyber victimization ($\beta = -.09$, $p > .05$). Males were more likely than females to experience traditional victimization. However, children experienced cyber victimization at comparable rates across genders. The second

hypothesis stated that traditional victimization and cyber victimization are not significantly related. Results supported this hypothesis and indicated that the variances associated with cyber victimization and traditional victimization were not significantly related (β = .01, p > .05). The third hypothesis posited that traditional victimization and cyber victimization would each be uniquely related to negative psychosocial functioning. More specifically, it was hypothesized that traditional victimization would be positively related to loneliness and negatively related to optimism about peer relations, number of mutual friendships, and social acceptability. In addition, cyber victimization would be positively related to loneliness and negatively related to optimism about peer relations and social acceptability, and not significantly related to number of mutual friendships. Consistent with the study hypotheses, traditional victimization was significantly related to psychosocial functioning at each level of social complexity. Traditional victimization was significantly related to higher rates of loneliness (β = .41, p < .001), and lower rates of optimism about peer relations (β = -.42, p < .001), number of mutual friendships (β = -.30, p < .001), and social acceptability (β = -.57, p < .001). Cyber victimization was significantly related to psychosocial functioning at the individual and group levels of social complexity, but it was not significantly related to psychosocial functioning at the relationship level. Cyber victimization was significantly related to higher rates of loneliness (β = .14, p < .05), and lower rates of optimism about peer relations (β = -.14, p < .05) and social acceptability (β = -.11, p = .05). At the individual level, the more that children experienced cyber victimization, the more they self-reported greater loneliness and the lower their self-reported optimism about peer relations. At the group level, the more that children experienced cyber victimization, the lower they were

rated by their peers in social acceptability. Consistent with the hypothesis, cyber victimization was not significantly related to the number of mutual friendships (β = -.10, p > .05)

Discussion

Children today grow up in a culture in which social relations are increasingly influenced by computers and technology. A consequence of this is that peer victimization is now possible not only *offline* (traditional) but also *online* (cyber). This new form of online victimization has received a great deal of news media attention, as well as growing interest within the academic community. As yet, little is known about the classroom psychosocial functioning of young children who experience cyber victimization. In addition to examining possible grade and gender effects, the present research evaluated the relation between traditional victimization and cyber victimization. The present study also investigated the impact of experiencing traditional victimization and cyber victimization for young children (grades 3-6) on classroom psychosocial functioning at multiple levels of social complexity. The results indicated a fairly large prevalence of cyber victimization at these younger ages, no grade or gender effects for experiencing cyber victimization, and no significant relation between traditional victimization and cyber victimization. In general, there was a significant relation between both types of victimization and negative psychosocial functioning with interesting differences noted.

Victimization and Age

No significant developmental effects were found for this younger sample of children (from grades 3 to 6) for cyber victimization. These findings are consistent with

previous research (Didden, et al., 2009; Erdur Baker & Tanrikuli, 2010). In middle childhood, third, fourth, fifth, and sixth grade children are equally as likely to experience cyber victimization. Although no developmental effect was obtained for this sample of children in middle childhood, it is possible that a developmental effect may be seen in a larger sample that includes children, adolescents, and young adults. Future research should examine cyber victimization with these populations to determine if comparable results are found.

Victimization and Gender

Results from the current study supported previous research that males were more likely to experience traditional victimization (Maccoby & Jacklin, 1974; Storch, et al., 2003). However, no gender differences were found for experiencing cyber victimization. These results replicate the findings in much of the research literature (e.g., Coyne, et al., 2009; Didden et al., 2009; Erdur Baker & Tanrikulu, 2010; Hinduja & Patchin, 2008). Perhaps the cyber world allows for the autonomy of aggressors and victims, and therefore children do not have to conform to gender stereotyped behaviors.

Another possibility is that the current study did not differentiate between different forms of victimization, such as *overt* victimization and *relational* victimization. Previous research has shown that gender differences can be seen when the researchers examined overt and relational traditional victimization, in that males are more likely to experience overt traditional victimization and females are more likely to experience relational traditional victimization (Crick, Casas, & Ku, 1999). Future research could benefit from examining the different forms of cyber victimization to determine if there is a similar gender difference as traditional victimization.

The Relation between Traditional Victimization and Cyber Victimization

Results from the current study supported the hypothesis that traditional victimization and cyber victimization are not significantly related. This finding is consistent with previous research indicating that traditional and cyber victimization are distinct constructs (Dempsey et al., 2009; Fredstrom et al., 2011; Ybarra & Mitchell, 2004). Possible differences between the two domains are that cyber victimization is not face-to-face, the victims may not personally know the aggressors, and the aggressors may be partially removed from the impact of their actions (Ybarra & Mitchell, 2004). Findings from the current study may indicate that these differences are substantial enough to warrant the conceptualization of traditional victimization and cyber victimization as separate constructs. Although there are obvious similarities between traditional victimization and cyber victimization, traditional and cyber victimization may involve different prevention, monitoring, and intervention strategies.

Victimization and Psychosocial Functioning

Both types of victimization (traditional and cyber) were strong predictors of individual level (loneliness and optimism about peer relations) and group level (social acceptability) psychosocial functioning. The more that a child experienced cyber victimization or traditional victimization, the more likely the child was to experience increased loneliness, the lower their self-reported optimism about their peer relations, and the lower they were rated by their peers for social acceptability. Traditional victimization, unlike cyber victimization, was a strong predictor of psychosocial functioning at the relationship level. The more a child experienced traditional victimization, the fewer number of mutual friendships they were likely to have.

Findings from the current study were consistent with previous research that victimization in both contexts was associated with negative psychosocial functioning. However, traditional victimization and cyber victimization accounted for unique amounts of the variability in each of the psychosocial functioning measures, with the exception of number of mutual friendships. These findings suggest that, when examining the psychosocial functioning difficulties due to peer victimization, we are able to explain more variability in adjustment by examining victimization in both contexts, rather than only examining one context. To gain a more complete understanding of the relation between victimization and classroom psychosocial functioning, it is important to examine both traditional victimization and cyber victimization. This supports the assertions made by Hawker and Boulton (2000) and Fredstrom, et al. (2011) that victimization should be examined in multiple contexts.

The present research organized peer relation variables around the social hierarchy of Hinde (1987) and Rubin et al. (2006). As noted previously, although adjacent levels of the hierarchical scheme certainly have an impact on each other, each level has unique processes associated with it that cannot be easily understood as simply a reduction of "higher" levels, nor as an extension of processes from "lower" levels. Each level offers a unique analysis. By using this scheme, the present data revealed an interesting difference in the relation of classroom psychosocial variables to victimization. Specifically, despite the fact that cyber victimization was related to negative psychosocial adjustment at the individual and group levels of social complexity, cyber victimization was not significantly related to psychosocial functioning at the relationship level (number of mutual friendships).

One possible explanation for this finding is that relationships, as a unique level of social complexity, involve social processes not as easily influenced by cyber interactions. Mutual friendships are a dyadic relationship between two people. They are voluntary, intimate, and dynamic. The social skills and intrapersonal characteristics required to develop and maintain a mutual friendship are different than the skills and characteristics required to fit in with the peer group.

The distinctness between these levels of psychosocial functioning may be exacerbated when the child's classroom peers are not the same children who are committing the online aggressive acts (as is likely the case with traditional victimization). In addition, they are likely not witnessing the online victimization. Therefore, unlike with traditional victimization and offline behaviors, cyber victims' classroom friendships are less influenced by the child's online behaviors. Unlike with group belongingness and individual self-appraisals, cyber victimization does not cut across contexts to impact the unique and interpersonal nature of relationships.

Another possible explanation for this finding is that mutual friendships were defined in the current study as face-to-face, classroom friendships. Previous research has shown that online interactions are extremely important. For example, the internet offers a unique way of connecting to friends and family, (Lenhart et al., 2005; Russell et al., 2003), reducing loneliness and anxiety (Ando & Sakamoto, 2007), and increasing the closeness of existing friendships (Valkenburg & Peter, 2007). However, a child's "cyber friends" were not included in the definition of "mutual friendships" in the current study. It is possible that traditional victimization is negatively related to *offline* mutual friendships and cyber victimization is negatively related to *online* mutual friendships.

Future research would benefit from examining the impact of cyber victimization and traditional victimization on children's online and offline mutual friendships.

The present findings may have important implications for decreasing children's cyber victimization experiences, as well as helping to buffer some of the social consequences related to cyber victimization at the individual and group levels. We know that having a mutual friendship serves many developmental functions, such as providing a context for learning social skills, developing self-knowledge and self-esteem, providing resources for emotional support, and offering an environment for practicing other types of relationships (Hartup, 1993). If cyber victims are able to change their psychosocial functioning at the relationship level, they may be able to decrease their victimization and positively influence their psychosocial functioning at the other levels of social complexity. As noted previously, research has shown that having a "best friend" is significantly related to a decrease in victimization (Boulton et al., 1999; Hodges et al., 1999). Mutual friendships are thought of as a "protective factor" and are considered important for warding off aggressive attacks by peers (Hodges et al., 1999). In addition, social support from close friends appears to buffer the effects of traditional victimization on psychosocial adjustment (Prinstein et al., 2001). Because cyber victimization is not related to the number of offline mutual friendships, in theory a cyber victim should have no more difficulty developing mutual friendships than a non-cyber victim. By increasing the number and quality of their offline mutual friendships, cyber victims may decrease their feelings of loneliness, increase their optimism about creating and maintaining friendships, and positively influence how their peers perceive them. However, it is important to note that the "friendship protection hypothesis" has only been demonstrated

for the relation between traditional victimization and offline, face-to-face friendships. Future research would benefit from determining if a similar relation exists between cyber victimization and mutual friendships, including both online and offline friendships.

Future Directions and Limitations

The extension of victimization into the realm of cyberspace is a growing concern. The present research evaluated the association of these behaviors to more traditional forms of peer victimization and to children's classroom psychosocial functioning at multiple levels of social complexity. A number of limitations to the current study are noted. In addition to the above mentioned directions for future research, a number of unanswered questions can be posed.

First, only children in the third-sixth grades from one elementary school were surveyed. This decreases the generalizability of the study findings. However, it is likely that this sample is representative of many third-sixth grade children in the United States because the students primarily came from middle-class socioeconomic backgrounds and represented multiple ethnic backgrounds.

Second, the assessment data included self-reports of cyber victimization and peer-reports of traditional victimization, and were also retrospective in nature. This may preclude a comprehensive assessment of the children's behaviors. Both peer-reports and self-reports of victimization have well-known advantages and limitations. For example, peer-reports of victimization provide the entire group's perspective of victimization behaviors, but peer-reports are often more time consuming to collect. Self-reports of victimization may underreport, underestimate, or falsely report victimization behaviors due to factors associated with social desirability. However, self-reports of cyber

victimization are advantageous because the individual has knowledge of what they are experiencing online in the privacy of their own homes, whereas a peer may or may not have this knowledge. Previous research has shown that children who are identified as victims from both self-reports and peer-reports have worse psychosocial functioning outcomes, as compared to children who are identified as victims through only one source (Crick & Bigbee, 1998). Future research that includes both peer-reports and self-reports of present traditional and cyber victimization could prove very beneficial and interesting.

In addition, employing a longitudinal design in the future would help not only document the course of development, but also the directionality of effects. It is unclear if, for example, children who are lonely are more likely to experience cyber victimization, or if children who experience cyber victimization are then more likely to be lonely. Future research could benefit from this knowledge, particularly as it relates to prevention, monitoring, and intervention strategies.

Fourth, only a limited number of psychosocial variables were assessed within the current study. Due to the use of only one measure to assess the relationship and group levels of social functioning, interpretations and generalizability of the results are limited. For example, because only one measure was used, it is possible that cyber victimization is generally related to the relationship level of social functioning, but it is not specifically related to a child's number of mutual friendships. Other psychosocial variables that have shown to be related to traditional victimization may also be associated with cyber victimization. For example, the inclusion of other variables, such as locus of control, delinquent behaviors, parent-child interactions, and academic performance, may further

enhance our understanding of the psychosocial functioning of traditional and cyber victims.

Although no gender effects were found for experiencing cyber victimization, the current study did not differentiate between if a child experienced victimization from a same-gender or opposite-gender aggressor. Whereas most traditional victimization occurs at the hands of a same-gender peer (Paquette & Underwood, 1999; Seals & Young, 2003), it is unclear if this is also true for cyber victimization. The gender of the aggressor may have important implications for our understanding of cyber victimization, and future research could benefit from further exploration of this possible relation.

Finally, another necessary and logical next step for future research involves interventions for children experiencing cyber victimization. The results of this study, along with those of previous studies, have shown the many negative psychosocial consequences related to experiencing cyber victimization. These studies have shown *why* interventions are necessary. Future research should inform us on the best practices for *how* to intervene to decrease and eliminate cyber victimization. Some preliminary research has indicated possible pathways for interventions. Similar to the importance of family support in addressing the maladjustment consequences experienced by traditional victims (Isaacs, Hodges, & Salmivalli, 2008), one study of adolescents (grades 6-10) found that higher parental support was related to less cyber victimization (Wang et al., 2009). Parental support was defined as being helpful, loving, understanding, and making the child feel better when they were upset. Parental support is incredibly important when children and adolescents lack the support from their peers and may be one avenue for decreasing cyber victimization, as well as addressing the psychosocial consequences that

the child experiences as a result of the victimization. Another study of young adolescents (grades 7-9) found that both traditional and cyber victims display a hostile attribution bias, in that they view the world as hostile and unfriendly (Pornari & Wood, 2010). Social skills training for children at risk for cyber victimization, similar to the skills training used for traditional victims, could prove successful in decreasing and/or eliminating cyber victimization.

Conclusion

This research adds to previous literature in significant ways. First, this study replicated previous research in not finding a gender difference in the frequency of cyber victimization. Second, the results indicated no developmental influence for experiencing cyber victimization in middle childhood. Third, no significant relation was found between experiencing traditional victimization and cyber victimization. Finally, and the most interesting, traditional victimization was significantly related to higher rates of loneliness, and lower rates of optimism about peer relations, number of mutual friendships, and social acceptability. Similarly, cyber victimization was positively related to children's self perceptions of loneliness, and negatively related to children's optimism about their peer relations and social acceptability. However, cyber victimization was not significantly related to number of mutual friendships. In summary, children are experiencing cyber victimization at young ages, and these behaviors can be related to serious psychosocial consequences. Parents, school personnel, and health care workers need to engage in preventative measures and be more aware of children's online behaviors. It is important to maintain the positive aspects of technology, but also to prevent the negative experiences that can be extremely damaging to a child.

References

Anderson, C.A., & Harvey, R.J. (1988). Discriminating between problems in living: An examination of measures of depression, loneliness, shyness, and social anxiety. *Journal of Social and Clinical Psychology, 6*, 482-491.

Ando, R., & Sakamoto, A. (2008). The effect of cyber-friends on loneliness and social anxiety: Differences between high and low self-evaluated physical attractiveness groups. *Human Behavior, 24*, 993-1009.

Asher, S.R., & Hymel, S. (1981). Children's social competence in peer relations: Sociometric and behavioral assessment. In J.D. Wine & M.D. Smye (Eds.), *Social Competence*. New York, NY: Guilford.

Asher, S.R., Hymel, S., & Renshaw, P. (1984). Loneliness in children. *Child Development, 55*, 1456-1564.

Asher, S.R., & Paquette, J.A. (2003). Loneliness in peer relations in childhood. *Current Directions in Psychological Science, 12*, 75-78.

Brennan, T. (1982). Loneliness in adolescence. In L.A. Peplau & D. Perlman (Eds.), *Loneliness: A Sourcebook of Current Theory, Research, and Therapy.* New York, NY: Wiley.

Boivin, M., Hymel, S., & Bukowski, W.M. (1995). The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood. *Development and Psychopathology, 7*, 765-785.

Boulton, M.J., Trueman, M., Chau, C., Whitehand, C., & Amatya, K. (1999). Concurrent and longitudinal links between friendship and peer victimization: Implications for befriending interventions. *Journal of Adolescence, 22*, 461-466.

Brage, D., Meredith, W., & Woodward, J. (1993). Correlates of loneliness among Midwestern adolescents. *Adolescence, 28*, 685-693.

Bukowski, W.M., & Hoza, B. (1989). Popularity and friendship: Issues in theory, measurement, and outcome. In T.J. Berndt (Ed), *Peer Relationships in Child Development* (pp. 15-45). Oxford, England: John Wiley & Sons.

Card, N.A., & Hodges, E.V.E. (2008). Peer victimization among schoolchildren: Correlations, causes, consequences, and considerations in assessment and intervention. *School Psychology Quarterly, 23*, 451-461.

Coyne, I., Chesney, T., Logan, B., & Madden, N. (2009). Griefing in a virtual community: An exploratory survey of second life residents. *Journal of Psychology, 217*, 214-221.

Crick, N.R., & Bigbee, M.A. (1998). Relational and overt forms of peer victimization: A multiinformant approach. *Journal of Consulting and Clinical Psychology, 66*, 337-347.

Crick, N.R., Casas, J.F., & Ku, H.C. (1999). Relational and physical forms of peer victimization in preschool. *Developmental Psychology, 35*, 376-385.

DeBell, M., & Chapman, C. (2006). *Computer and internet use by students in 2003 (NCES 2006-065).* U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Deptula, D., Cohen, R., Phillipsen, L., & Ey, S. (2006). Expecting the best: The relation between peer optimism and social competence. *The Journal of Positive Psychology, 1*, 130-141.

Dempsey, A.G., Sulkowski, M.L., Nichols, R., & Storch, E.A. (2009). Differences between peer victimization in cyber and physical settings and associated psychosocial adjustment in early adolescence. *Psychology in the Schools, 46*, 962-972.

Didden, R., Scholte, R.H., Korzilius, H., deMoor, J.M., Vermeulen, A., O'Reilly, M., ... Lancini G.E. (2009). Cyberbullying among students with intellectual and developmental disability in special education settings. *Developmental Neurorehabilitation, 12*, 146-151.

Egan, S.K., & Perry, D.G. (1998). Does low self-regard invite victimization? *Developmental Psychology, 34*, 299-309.

Erdur Baker, O., & Tanrikuli, I. (2010). Psychological consequences of cyber bullying experiences among Turkish secondary school children. *Procedia Social and Behavioral Sciences, 2*, 2771-2776.

Fight Crime: Invest in Kids Pennsylvania. (2006, August 17). 1 of 3 teens and 1 of 6 preteens are victims of cyber bullying. Retrieved from http://www.fightcrime.org/state/pennsylvania/news/1-3-teens-1-6-preteens-are-victims-cyber-bullying

Finkelhor, D., Mitchell, K.J., & Wolak, J. (2000). *Online victimization: A report on nation's youth.* Alexandra, VA: National Center for Missing and Exploited Children.

Fredstrom, B.K., Adams, R.E, & Gilman, R. (2011). Electronic and school-based victimization: Unique contexts for adjustment difficulties during adolescence. *Journal of Youth and Adolescence, 40*, 405-415.

Glover, D., Gough, G., Johnson, M., & Cartwright, N. (2000). Bullying in 25 secondary schools: Incidence, impact, and intervention. *Educational Research, 42*, 141-156.

Hanish, L.D., & Guerra, NG. (2000). Predictors of peer victimization among urban youth. *Social Development, 9*, 521-543.

Hartup, W.W. (1993). Adolescents and their friends. *New Directions for Child and Adolescent Development, 60*, 3-22.

Hawker, D.S.J., & Boulton, M.J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry, 41*, 441-455.

Hinde, R.A. (1987). *Individuals, relationships, & culture: Links between ethology and the social sciences. Themes in the social sciences.* New York, NY: Cambridge University Press.

Hinduja, S., & Patchin, J.W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior, 29*, 129-156.

Hinduja, S., & Patchin, J.W. (2009). *Bullying beyond the schoolyard: Preventing and responding to Cyberbullying.* Thousand Oaks, CA: Corwin Press.

Hodges, E.V.E., Boivin, M., Vitaro, F., & Bukowski, W.M. (1999). The power of friendship: Protection against an escalating cycle of peer victimization. *Developmental Psychology, 35*, 94-101.

Hodges, E.V.E., Malone, M.J, & Perry, D.G. (1997). Individual risk and social risk as interacting determinants of victimization in the peer group. *Developmental Psychology, 33*, 1032-1039.

Hoyle, R.H. (1995). *Structural equation modeling: Concepts, issues, and applications*. Thousand Oaks, CA: Sage.

Hu, L., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1-55.

Hymel, S., Rubin, K.H., Rowden, L., & LeMare, L. (1990). Children's peer relationships: Longitudinal prediction of internalizing and externalizing problems from middle to late childhood. *Child Development, 61*, 2004-2021.

Isaacs, J., Hodges, E.V.E., & Salmivalli, C. (2008). Long-term consequences of victimization by peers: A follow-up from adolescence to young adulthood. *European Journal of Developmental Science, 2*, 387-397.

Katzer, C., Fetchenhauer, D., & Belschak, F. (2009). Cyberbullying: Who are the victims? A comparison of victimization in internet chatrooms and victimization in school. *Journal of Media Psychology, 21*, 25-36.

Keith, S., & Martin, M. E. (2005). Cyber bullying: Creating a culture of respect in a cyber world. *Reclaiming Children and Youth, 13*, 224- 228.

Kochenderfer, B.J., & Ladd, G.W. (1996). Peer victimization: Cause or consequence of school maladjustment? *Child Development, 67,* 1301-1317.

Koenig, L.J., & Abrams, R.F. (1999). Adolescent loneliness and adjustment: A focus on gender differences. In K.J. Rotenberg & S. Hymel (Eds.) *Loneliness in childhood and adolescence* (pp. 296-322). New York, NY: Cambridge University Press.

Kowalski, R.M., & Limber, S.P. (2007). Electronic bullying among middle school students *Journal of Adolescent Health, 41*, S22-S30.

Kowalski, R.M., Limber, S.P., & Agatston, P.W. (2008). *Cyberbullying: Bullying in the digital age.* Malden, MA: Blackwell Publishing.

Ladd, G.W. (2005). *Children's peer relations and social competence: A century of progress (current perspectives in psychology).* Yale University Press.

Ladd, G.W., & Kochenderfer-Ladd, B. (2002). Indentifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment, 14*, 74-96.

Larson, R.W. (1999). The uses of loneliness in adolescence. In K.J. Rotenberg & S. Hymel (Eds.) *Loneliness in childhood and adolescence* (pp. 296-322). New York, NY: Cambridge University Press.

Lenhart, A., Madden, M., & Hitlin, P. (2005). *Teens and technology: Youth are leading the transition to a fully wired and mobile nation*. Washington, DC: Pew Internet & American Life Project.

Maccoby, E.E., & Jacklin, C.N. (1974). *The psychology of sex differences*. Stanford University Press.

Masten, A., Morison, P., & Pellegrini, D. (1985). A Revised Class Play Method of peer assessment. *Developmental Psychology, 21*, 523-533.

Mishna, F., Cook, C., Gadall, T., Daciuk, J., & Solomon, S. (2010). Cyber bullying behaviors among middle and high school students. *American Journal of Orthopsychiatry, 80*, 362-374.

Moore, D., & Schultz, N.R. (1983). Loneliness at adolescence: Correlates, attributions, and coping. *Journal of Youth and Adolescence, 12*, 95-100.

Olweus, D. (1978). *Aggression in the schools: Bullies and whipping boys*. Washington, DC: Hemisphere.

Parker, J.G., & Asher, S.R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology, 29*, 611-621.

Paquette, J.A., & Underwood, M.K. (1999). Gender differences in young adolescents' experiences of peer victimization: Social and physical aggression. *Merrill-Palmer Quarterly, 45*, 242-266.

Perry, D.G., Kusel, S.J., & Perry, L.C. (1988). Victims of peer aggression. *Developmental Psychology, 24*, 807-814.

Pornari, C.D., & Wood, J. (2010). Peer and cyber aggression in secondary school students: The role of moral disengagement, hostile attribution bias, and outcome expectancies. *Aggressive Behavior, 36*, 81-94.

Prinstein, M.J., Boergers, J., & Vernberg, E.M. (2001). Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. *Journal of Clinical Child & Adolescent Psychology, 30*, 479-491.

Reijntjes, A., Kamphuis, J.H., Prinzie, P., & Telch, M.J. (2010). Peer victimization and internalizing problems in children. A meta-analysis of longitudinal studies. *Child Abuse & Neglect, 34*, 244-252.

Renshaw, P.D., & Brown, P.J. (1993). Loneliness in middle childhood: Concurrent and longitudinal predictors. *Child Development, 64*, 1271-1284.

Rigby, K. (2000). Effects of peer victimization in schools and perceived social support on adolescent well-being. *Journal of Adolescence, 23*, 57-68.

Rubin, K., Bukowski, W., & Parker, J. G. (2006). Peer interactions, relationships, and groups. In N. Eisenberg, W. Damon, & R. Lerner (Eds.), *Handbook of child psychology: Vol. 3, Social, emotional, and personality development* (6th ed., pp. 571-645). Hoboken, NJ: John Wiley & Sons Inc.

Russell, D., Flom, E., Gardner, K., Curtona, C., & Hessling, R. (2003). Who makes friends over the internet?: Loneliness and the "virtual" community. *The International Scope Review, 5*, 10.

Salmivalli, C., & Isaacs, J. (2005). Prospective relations between victimization, rejection, friendlessness, and children's self- and peer-perceptions. *Child Development, 76*, 1161-1171.

Schoffstall, C.L., & Cohen, R. (in press). Cyber aggression: Online aggressors and offline social competence. *Social Development.*

Seals, D., & Young, J. (2003). Bullying and victimization: Prevalence and relationship to gender, grade level, ethnicity, self-esteem, and depression. *Adolescence, 38*, 735-747.

Smith, P.K., & Shu, S. (2000). What good schools can do about bullying: Findings from a survey in English schools after a decade of research and action. *Childhood, 7*, 193-212.

Storch, E.A., Brassard, M.R., & Masia-Warner, C.L. (2003). The relationship of peer victimization to social anxiety and loneliness in adolescence. *Child Study Journal, 33*, 1-18.

Storch, E.A., & Ledley, D.R. (2005). Peer victimization and psychosocial adjustment in children: Current knowledge and future directions. *Clinical Pediatrics, 44*, 29-38.

Valkenburg, P., & Peter, J. (2007). Online communication and adolescent well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication, 12*, 1169-1182.

Wang, J., Iannotti, R.J., Luk, W.J., & Nansel, T.R. (2010). Co-occurrence of victimization from five subtypes of bullying: Physical, verbal, social exclusion, spreading rumors, and cyber. *Journal of Pediatric Psychology, 35*, 1103-1112.

Wang, J., Iannotti, R.J., & Nansel, T.R. (2009). School bullying among US adolescents: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 45*, 368-375.

Wang, J., Nansel, T.R., & Iannotti, R. (2011). Cyber and traditional bullying: Differential association with depression. *Journal of Adolescent Health, 48*, 415-417.

Whitney, I., & Smith, P.K. (1993). A survey of the nature and extent of bullying in junior/middle and secondary schools. *Educational Research, 35*, 3-25.

Wolak, J., Mitchell, K.J., & Finkelhor, D. (2007). Does online harassment constitute bullying? An exploration of online harassment by known peers and online-only contacts. *Journal of Adolescent Health, 41*, S51-S58.

Ybarra, M.L., & Diener-West, M. (2007). Examining the overlap in internet harassment and school bullying: Implications for school intervention. *Journal of Adolescent Health, 41*, S42-S50.

Ybarra, M.L., Espelage, D.L., & Mitchell, K.J. (2007). The co-occurrence of internet harassment and unwanted sexual solicitation victimization and perpetration: Associations with psychosocial indicators. *Journal of Adolescent Health, 41*, S31-S41.

Ybarra, M.L., & Mitchell, K.J. (2004). Youth engaging in online harassment: Associations with care-giver child relationships, internet use, and personal characteristics. *Journal of Adolescence, 27*, 319-336.

Appendix A

Directions: The sentences below describe how children do things and feel about things. For each sentence, please think about how true that sentence is for you and fill in the circle to show your answer. Please fill in one, and only one, circle for each of the sentences. There are no right or wrong answers.

1. I play sports a lot.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
2. There's no other kids I can go to when I need help in school	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
3. I like playing board games a lot.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
4. It's hard for me to make friends at school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
5. I'm lonely at school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
6. I feel left out of things at school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
7. I watch TV a lot.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
8. I like to paint and draw.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
9. I am well liked by the kids in my class.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
10. I get along with my classmates.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
11. I like to read.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
12. It's easy for me to make new friends at school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
13. I like school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
14. I don't have any friends in class.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
15. It's hard to get kids in school to like me.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**

16. I have nobody to talk to in class.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
17. I have lots of friends in my class.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
18. I don't have anyone to play with at school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
19. I don't get along with other children in school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
20. I can find a friend in my class when I need one.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
21. I'm good at working with other children in my class.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
22. I like music.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
23. I like science.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**
24. I feel alone at school.	**Always true O**	**True most of the time O**	**Sometimes true O**	**Hardly ever true O**	**Not true at all O**

Appendix B

Instructions

Please answer the following questions about yourself by putting how true or not true each statement is for you. Please **COLOR IN** the oval that seems to describe you the best. There are no right or wrong answers. Just describe yourself as best as you can.

1. When I see a group of kids doing something fun, it is usually easy for me to join them.

true for me	sort of true for me	sort of not true for me	not true for me

2. Things usually go wrong for me when I am with other kids.

true for me	sort of true for me	sort of not true for me	not true for me

3. I don't usually expect good things to happen to me when I am with other kids.

true for me	sort of true for me	sort of not true for me	not true for me

4. It's easy for me to become friends with other kids.

true for me	sort of true for me	sort of not true for me	not true for me

5. Usually other kids don't pick me to play with.

true for me	sort of true for me	sort of not true for me	not true for me

6. When I am not sure what other kids want to do next I usually expect it to be something good.

true for me	sort of true for me	sort of not true for me	not true for me

7. When I am with other people, I don't expect to make friends easily.

true for me	sort of true for me	sort of not true for me	not true for me

8. I usually expect that classmates will ask me to play during recess.

true for me	sort of true for me	sort of not true for me	not true for me

9. I expect it will be hard for me to join a group of kids playing together.

true for me	sort of true for me	sort of not true for me	not true for me

10. I'm always hopeful about good things happening when I meet new kids.

true for me	sort of true for me	sort of not true for me	not true for me